

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Thomas D. Hanan

Application No.: 10/003,675

Filing Date: October 31, 2001

Title: METHOD FOR INSTALLING A
PORTAL TO A PROTECTED AREA
OF A DISK DRIVE

MAIL STOP

Group Art Unit: 2137

Examiner: JEFFREY D POPHAM

Confirmation No.: 5322

AMENDMENT/REPLY TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is a reply for the above-identified patent application.

- ☒ A Petition for Extension of Time is enclosed.
- ☐ _____ Terminal Disclaimer(s) and the ☐ \$ 65 ☐ \$ 130 fee per Disclaimer due under 37 C.F.R. § 1.20(d) are enclosed.
- ☐ Also enclosed is/are: _____
- ☐ Small entity status is hereby claimed.
- ☐ Applicant(s) requests continued examination under 37 C.F.R. § 1.114 and enclose the ☐ \$ 395 ☐ \$ 790 fee due under 37 C.F.R. § 1.17(e).
- ☐ Applicant(s) requests that any previously unentered after final amendments not be entered. Continued examination is requested based on the enclosed documents identified above.
- ☐ Applicant(s) previously submitted _____ on _____ for which continued examination is requested.
- ☐ Applicant(s) requests suspension of action by the Office until at least _____, which does not exceed three months from the filing of this RCE, in accordance with 37 C.F.R. § 1.103(c). The required fee under 37 C.F.R. § 1.17(i) is enclosed.
- ☐ A Request for Entry and Consideration of Submission under 37 C.F.R. § 1.129(a) (1809/2809) is also enclosed.

- ☐ No additional claim fee is required.
- ☐ An additional claim fee is required, and is calculated as shown below:

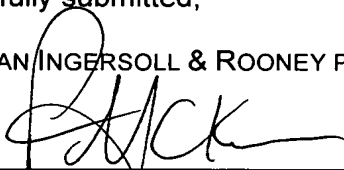
AMENDED CLAIMS					
	No. of Claims	Highest No. of Claims Previously Paid For	Extra Claims	Rate	Additional Fee
Total Claims	0	20	0	x \$ 50 (1202)	\$ 0
Independent Claims	0	3	0	x \$ 200 (1201)	0
<input type="checkbox"/> If Amendment adds multiple dependent claims, add \$ 360 (1203)					\$ 0
Total Claim Amendment Fee					\$ 0
<input type="checkbox"/> Small Entity Status claimed - subtract 50% of Total Claim Amendment Fee					0
TOTAL ADDITIONAL CLAIM FEE DUE FOR THIS AMENDMENT					\$ 0

- ☐ Charge _____ to Deposit Account No. 02-4800 for the fee due.
- ☐ A check in the amount of _____ is enclosed for the fee due.
- ☐ Charge _____ to credit card for the fee due. Form PTO-2038 is attached.
- ☒ The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BUCHANAN/INGERSOLL & ROONEY PC

Date July 19, 2007

By: 
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Patent
Attorney's Docket No. K35A1023 (1032806-000027)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)	MAIL STOP AF
Thomas D. Hanan)	
Application No.: 10/003,675)	Group Art Unit: 2137
Filed: October 31, 2001)	Examiner: Jeffrey D. Popham
For: METHOD FOR INSTALLING A)	Appeal No.: _____
PORTAL TO A PROTECTED)	
AREA OF A DISK DRIVE)	

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Reconsideration and allowance of the present application are respectively requested. Claims 1-8 remain pending in the application, of which claims 1 and 4 are independent.

On page 7 of the final Office Action, in rejecting new claim 8, the Examiner has indirectly raised a new rejection of unamended independent claim 4 (from which rejected claim 8 depends) as being anticipated by U.S. Patent No. 5,812,883 (Rao). On pages 10-12 of the final Office Action, in rejecting new claim 7, the Examiner has raised a new rejection of unamended independent claim 1 as being unpatentable over the Rao patent in combination with the Torrubia-Saez patent. The final rejection of independent claims 1 and 4 based on newly cited art is improper, and it is requested that the finality of these rejections be withdrawn.

Rejection of Independent Claim 4

In numbered paragraph 2 on pages 4-5 of the Office Action, claim 4 and dependent claims 5-6 are rejected under 35 U.S.C. §102(e) as being anticipated by commonly assigned U.S. Patent No. 7,003,674 (Hamlin). In numbered paragraph 3 on pages 6-7 of the Office Action, claim 4 and dependent claims 5-6 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,235,641 (Nozawa et al). On page 7, independent claim 4 and claim 8 are rejected as being anticipated by newly cited U.S. Patent No. 5,812,883 (Rao).

Rejection of Independent Claim 1

In numbered paragraph 5 on page 8 of the Office Action, independent claim 1 is rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,966,002 (Torrubia-Saez) in view of the Nozawa patent. On page 10, independent claim 1 and claim 7 are rejected over the Rao and Torrubia-Saez patents.

On pages 9-10 of the Office Action, claims 2-3 (which depend from claim 1) are rejected as being unpatentable over the Torrubia-Saez patent in view of the Nozawa patent in further view of U.S. Patent No. 6,681,304 (Vogt).

Response

On pages 2-4 of the Office Action, the Examiner has set forth a "Response to Arguments" wherein the Examiner addresses the rejection of independent claims 1 and 4 based on the Hamlin and Nozawa patents. The Examiner's assertions raised in this portion of the Office Action do not support the rejections set forth in the Office

action. None of the documents cited by the Examiner are directed to: (1) creation of a mailbox file in a first range of **host interface** addressable locations; (2) wherein the disk drive can perform an executable function **characterized by contents of the mailbox file**. No mailbox file as claimed, at a host interface addressable location, is disclosed by the documents relied upon by the Examiner.

On page 3 of the Office Action, the Examiner specifically refers to the Hamlin patent at column 6, line 66 to column 7, line 2. This portion of the Hamlin patent refers to a portion of pristine area 8 on the Figure 3 disk 4 that is accessed by authentication circuitry 14; this pristine area is **not** addressable by an external requesting entity. The pristine area 8 "stores information to implement a suitable challenge and response sequence ...to authenticate an external entity by sending a random challenge value to the external entity." (Column 6, lines 60-64). Column 7, lines 13-14 of the Hamlin patent describe use of a message authentication code (MAC) that is generated and appended to a request from an external entity. Upon receipt of the request, the authorization circuitry 14 (and not the requesting external entity) accesses the pristine area 8 to authenticate the request. Thus, there is no "mailbox file" as presently claimed in this portion of pristine area 8, and no executable function performed by the disk drive of the Hamlin patent is characterized by the contents of such a mailbox file. Rather, pristine area 8 merely contains data that is accessed by the disk drive to authenticate a request being made by an external entity to a different location of the disk drive.

Thus, the pristine area 8 referenced by the Examiner is accessed under the control of the authentication circuitry 14. The Hamlin patent does not disclose a host interface addressable mailbox file as presently claimed. Such a feature

encompasses the exemplary embodiment discussed in paragraph [0017] of Applicant's specification.

Moreover, the Hamlin patent does not disclose use of a "mailbox file" as presently claimed to characterize an executable function that is to be performed by the disk drive. The Hamlin patent does not describe that the disk drive of Figure 3 in the Hamlin patent is a disk controller which performs an executable function characterized by contents of a mailbox file accessed by an external entity.

Claim 4 is therefore allowable over the Hamlin patent.

The Examiner's "Response to Argument" addresses the rejection of independent claim 4 over the Nozawa patent on page 3 of the Office Action, with specific reference to column 6, lines 35 to column 7, line 27 of the Nozawa patent. However, the Nozawa patent does not disclose a host interface addressable mailbox file as claimed, or a disk controller which performs an executable function characterized by contents of such a mailbox file.

The upper rank apparatus 1 described at column 6, lines 35 *et seq.* of the Nozawa patent serves as a "Host" in Figure 1 of the Nozawa patent, which merely reads an encrypted data key stored in magnetic tape device 12 so that the key can be transferred by the upper rank apparatus to a data key cryptographic device 11 (see col. 6, lines 46-51). The upper rank apparatus 1 and the data key cryptographic device 11 perform an executable function. However, the magnetic tape controller 2 does not perform an executable function characterized by contents of any mailbox file as presently claimed. As such, independent claim 4 is allowable.

In addressing independent claim 1, the Examiner's "Response to Arguments" on page 4 of the Office Action refers to a combination of the Torrubia-Saez patent

and the Nozawa patent. The Examiner acknowledges that the Torrubia-Saez patent "does not disclose that the disk drive can perform an executable function characterized by contents of the mailbox file" (Office Action at page 4, lines 3-5), and therefore relies on portions of the Nozawa patent cited in the prior office action (namely, column 5, line 21 to column 7, line 27 of the Nozawa patent). The Nozawa patent does not disclose such a feature. Even if it is assumed solely for the sake of argument that the systems of these patents could have been combined in the manner suggested by the Examiner, the presently claimed invention would not have resulted. Neither document teaches or suggests a host interface addressable mailbox file as presently claimed, or a disk controller which performs an executable function characterized by the contents of any such mailbox file.

The Examiner's Rejection

On pages 4-12 of the Office Action, the Examiner sets forth his formal rejection of the claims. Applicant's prior arguments in response to the rejections of claims 1-6, as set forth in Applicant's Amendment filed December 14, 2006, pages 5-10, are hereby incorporated by reference.

As described therein, the Hamlin and Nozawa patents relied upon in the rejection of claim 4, fail to anticipate all features recited in claim 4, such that withdrawal of these rejections is respectfully requested. The citations to the Hamlin patent in this portion of the Office Action are directed to a disk drive having a disk with a public area for storing plain text data and a pristine area for storing encrypted data. A control system is provided for controlling access to the pristine area of a disk, with access only being granted upon authentication of a request. A secret drive

key is provided in the disk drive, and decryption circuitry uses this secret drive key for decrypting encrypted data stored in the pristine area of the disk.

In rejecting claim 4, the Examiner refers to column 5, line 58 through column 7, line 27 of the Hamlin patent. As already discussed, this portion of the Hamlin patent is directed to various functions, such as a user/device authentication whereby authentication circuitry 14 uses an entity ID of a request to read an associated password from a pristine area 8, and the request is authenticated if the stored password matches the entity password received in the request. (See column 5, lines 65 to column 6, line 3).

The cited portion of the Hamlin patent does not disclose recognizing a command from a host operating system in reference to a host addressable mailbox file. The cited portion of the Hamlin patent does not disclose responding to the host command by performing, within the disk controller, an executable function that is **characterized by the contents of the mailbox file**. In the Hamlin patent, the disk controller does not perform an executable function that is characterized by the contents of the pristine area; rather, the disk controller compares information included in a host request with information retrieved from the portion of the pristine area 8 that is accessed by the authentication circuitry 14.

The Hamlin patent also discloses that encrypted information which is stored in the pristine area 8 can be decrypted at the time it is read using a previously stored secret drive key 16 (see column 6, lines 4-12). However, information stored in the pristine area does not **characterize** a decryption function. Rather, the information stored in the pristine area is merely acted upon by the decryption function of

decryption circuitry 18. As such, the Hamlin patent fails to teach or suggest Applicant's claim 4 method.

In rejecting claim 4 over the Nozawa patent, the Examiner relies on column 6, line 5 through column 7, line 27. This portion of the Nozawa patent is directed to use of an upper rank apparatus 1 serving as a host controller which provides an instruction to a magnetic tape control device 2. In response to this instruction, a microprocessor 9 of the magnetic tape control device 2 reads from the magnetic tape medium an encrypted data key as described at column 6, lines 36-46. A data key cryptographic device 11 decrypts the key to provide a raw data key, which is set in a data key storage mechanism 8. Subsequently, the decrypted data can be decompressed, if necessary, and sent to the upper rank apparatus 1 through a channel interface control section 3.

Thus, like the Hamlin patent, the Nozawa patent does not teach Applicant's claim 4 combination which includes, among other features, a step of responding to a host command received via a host interface to access a mailbox file by performing, within a disk controller, an executable function **characterized by contents of a mailbox file**. Both of these patents are directed to merely reading data from a disk location, and to using functions that act upon the retrieved information (e.g., authorization or decryption function). In no case does information retrieved from a host addressable location of a disk drive characterize a function that is to be executed by the disk drive. As such, claim 4 is allowable over the documents relied upon by the Examiner.

With regard to claim 1, the Torrubia-Saez patent, considered alone or in combination with the Nozawa patent, fails to teach or suggest Applicant's claim 1

combination. Even if it is assumed for the sake of argument that the Torrubiya-Saez patent and the Nozawa patent could have been combined in the manner suggested by the Examiner, the presently claimed invention would not have resulted..

The Torrubiya-Saez patent is directed to secure distribution of software, and in this regard, is considered no more relevant to the presently claimed invention than the documents already discussed. The Torrubiya-Saez patent describes storage of files on a disk drive, using commands which are executed by a host CPU, not the disk drive. An access key may be generated in Torrubiya-Saez, but this access key does not provide access to a mailbox file, wherein the disk drive can perform an executable function characterized by the contents of that file. Thus, there would have been no suggestion in Torrubiya-Saez to enable a disk drive to perform an executable function characterized by the contents of a mailbox file (all executable functions are conventionally performed by the host in Torrubiya-Saez).

Moreover, there would have been no suggestion to have modified the system of Torrubiya-Saez, based upon teachings of Nozawa, to obtain a disk drive access key from an access key server, to create Applicant's claimed mailbox file, or to perform the notifying step of claim 1. Neither of these documents teaches or suggests use of an access key generated as a function of an identifying characteristic of a disk drive, creating a mailbox file using such an access key, and notifying the disk drive of a location of the mailbox file, wherein the disk drive can perform an executable function characterized by contents of the mailbox file. At best, any combination of these two patents would have resulted in storing host-executable files of Torrubiya-Saez on a disk drive. There would have been no motivation or suggestion to make the host-executable files of Torrubiya-Saez disk

drive-executable. For at least these reasons, the rejection of claim 1 over these patents should be withdrawn.

The Vogt patent, cited on page 6 of the Office Action with regard to claims 2 and 3, fails to overcome the deficiencies of Torrubia-Saez and Nozawa patents. As such, independent claim 1 like independent claim 4 is allowable. The remaining claims 2-4 and 5-8 are allowable for at least the reasons discussed with respect to independent claims.

Independent claims 1 and 4, as well as dependent claims 7-8 are also allowable over the newly cited Rao patent, regardless of whether the Rao patent is considered alone or in combination with the Torrubia-Saez patent. The Rao patent does not teach or suggest a host interface addressable mailbox file on a disk storage medium, or a disk device which can perform an executable function characterized by contents of a mailbox file accessed by a host command via a disk drive host interface. The Rao patent therefore does not overcome the deficiencies already noted herein with respect to the other documents relied upon by the Examiner.

The Examiner refers to various citations in columns 2, 4, 6 and 8 of the Rao patent. The Rao patent discloses in Figure 2 a storage drive assembly 106 having a disk 208 and a nonvolatile memory 212 (e.g., an EPROM, as described at col. 2, lines 10-12 and col. 5, lines 47-52). All of the cited portions of the Rao patent relied upon by the Examiner are directed to control parameters stored in the memory device 212, which is included on the SCSI controller board 202. (See, e.g., col. 2, lines 18-19; col. 3, lines 12-25; col. 6, lines 46-55 and col. 8, lines 38-39). The stored parameters include, for example, parameters to control operation of the disk drive 106, and can be changed by a utility program in a computer connected to the

disk drive (see col. 2, lines 13-16). The Rao patent, considered alone or in combination with the Torrubia-Saez patent, does not teach or suggest the presently claimed invention as set forth in independent claims 1 and 4, or the features of dependent claims 7 and 8.

For example, in no case does the Rao patent disclose or suggest that a storage location of Rao's EPROM 212, upon being accessed by a host computer, causes the disk drive to perform an executable function that is characterized by the contents of the location being accessed. Rather, the host computer of the Rao patent merely changes information stored at various locations in the EPROM 212. The changing of the stored information can be used to alter operation of the disk drive 106. This is in sharp contrast to the presently claimed invention, wherein a previously stored mailbox file is accessed by a host computer via a disk drive host interface, such that by merely accessing the mailbox file, the mailbox characterizes an executable function to be performed by the disk drive. Such features, are broadly encompassed by Applicant's independent claims 1 and 4, and these claims are allowable. Claims 7-8 recite additional advantageous features, and are also allowable.

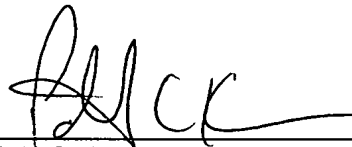
In light of the foregoing, the present application is in condition for allowance and a Notice of Allowance is respectfully solicited. Should the Examiner have any questions regarding any of the above, it is respectfully requested that the undersigned be contacted at the number shown below.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date July 19, 2008

By:



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